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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/526,864	03/04/2005	Alan G. Knapp	GB 030093	5468
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EXAMINER				
HO, BAO QUAN T				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/526,864

Applicant(s)

KNAPP ET AL.

Examiner

BAO-QUAN T. HO

Art Unit

2629

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 18-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 18-24 is/are rejected.
- 7) ☒ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 March 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/S508)
- Paper No(s)/Mail Date 08/24/2005
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Objections

3. Claims 5-7 and 23 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only and cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-2 and 18-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Kimura et al. (hereafter referenced as Kimura), US Patent 6,518,962..

As to claims 1 and 18, Kimura discloses an active matrix electroluminescent display device including an array of display (FIG. 1) comprising:

an electroluminescent display element (224);

active matrix circuitry including at least one drive transistor (223) for driving a current through the display element (col. 20 lines 50-57);

means for determining an overall brightness level (Comparison Circuit 21a, col. 21 lines 57-59) of an image to be displayed in a frame period; and means for controlling (Voltage control circuit 22a, col. 21 lines 59-67 to col. 22 lines 1 -6) the at least one drive transistor (223) of each pixel in dependence on a respective input signal providing a drive level (Current ID) for the pixel and in dependence on the overall brightness level (Reference current Iref).

As to claims 2 and 19, Kimura discloses wherein the means for controlling the at least one drive transistor comprises a signal processing device (Comparison Circuit 21a, col. 21 lines 57-59, the Comparison circuit compares the Current ID to a Reference Current Iref and process the Voltage control circuit 22a to adjust the driving voltage) for determining an overall brightness level and for processing the input signals for the pixels in dependence on the overall brightness level.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 3 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura in view of Mori, US Publication 2003/0025718.

As to claims 3 and 20, Kimura discloses a device as claimed in claim 2, Kimura also discloses wherein the signal processing device comprises a field store (Frame memory 207 can be used to store measure Current ID, col. 34 lines 58-62) for storing the input signals for an image, but Kimura disclose not specifically discloses a summation unit for summing the input signals for all pixels of the image in the field store to determine the overall brightness.

However, Mori discloses a summation unit (Brightness Detection Unit which detects using an integrator to determine the brightness information of the input video signal, Page 1 paragraph [0038]) for summing the input signals for all pixels of the image in a field store (Frame memory 4) to determine the overall brightness.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to have modified the signal processing device to use a summation unit such as an integrator as taught by Mori to be used in the signal processing device of Kimura for the purpose of gathering brightness information (Page 3 paragraph [0038]).

8. Claims 4 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura.

As to claims 4 and 22, Kimura discloses a device as claimed in claim 2, and Kimura discloses wherein the signal processing device is adapted to employ gamma

characteristics for processing the input signals in dependence on the overall brightness level (Kimura discloses the use of well-known processing circuit 1002 using a gamma-correction circuit, col. 40 lines 17-21).

9. Claims 8, 21, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura in view of Feldman et al. (hereafter referenced as Feldman), US Patent 6,582,980.

As to claims 8 and 24, Kimura discloses a device as claimed in claim 2, but Kimura does not specifically disclose wherein the signal processing device comprises digital to analogue converter circuitry for converting digital inputs into the input signal, and wherein the digital to analogue converter circuitry is controllable in dependence on the overall brightness level.

However, Feldman discloses a signal processing device (Signal processing circuit 14) comprises digital to analogue converter (Display Driver 30 may contain a digital-to-analog converter, col. 11 lines 60-67) circuitry for converting digital inputs into the input signal, and wherein the digital to analogue converter circuitry is controllable in dependence on the overall brightness level (The signal processing circuit processes the overall brightness level and supplies the signal to the display driver, wherein the digital to analog converter converts the signal.).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to have modified the signal processing circuit as taught by Feldman to have an digital to analog converter within the signal processing circuit of

Kimura for the purpose of producing analog signals for image display that expect analog drive (col. 11 lines 63-65).

As to claim 21, Kimura discloses a method as claimed in claim 19, while Feldman discloses wherein processing the input signal comprising modifying the input signals using a look up table (Table lookup logic, col. 10 lines 4-9), the address of which is selected in dependence on the input signal and the overall brightness level.

10. Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kimura, in view of Feldman, and further in view of Murai et al. (Hereafter referenced as Hiroykui), JP application JP 2001-1305511 A.

As to claim 9, Kimura discloses a device as claimed in claim 1, but does not specifically disclose wherein the active matrix circuitry comprises first and second drive transistors in parallel each connected between a respective power supply line and the EL display element, the input to the pixel being provided to the gates of the first and second drive transistors, and wherein the first the drive transistor is supplied with a first supply voltage and the second drive transistor is supplied with a second supply voltage, at least one of the supply voltages being variable in dependence on the overall brightness level.

However Murai discloses in FIG. 6 wherein a active matrix circuitry comprises first and second drive transistors (Transistors 14 and 13, respectively) in parallel each connected between a respective power supply line (Lines 1012 and 3, respectively) and the display element (Element 1102), the input to the pixel being provided to the gates of the first and second drive transistors (14 and 13, respectively), and wherein the first the

drive transistor (14) is supplied with a first supply voltage (Voltage seen in FIG. 4e) and the second drive transistor (13) is supplied with a second supply voltage (Voltage seen in FIG. 4c), at least one of the supply voltages being variable in dependence on the on the overall brightness level (Page 11 and bottom half of paragraph [0030]).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to have modified the active matrix circuitry as taught by Murai in place of the circuitry of Kimura to use two drive transistors for the purpose of lower power dissipation (Page 11 and bottom half of paragraph [0030]).

Although Murai uses a Liquid crystal element, the Feldman reference teaches LCD panels and other flat-panel display, such as Electroluminescent display, technologies employ similar device structures (col. 1 lines 29-34).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention was made to have used the circuitry structure as taught by Murai in place of Display structure of Kimura as Feldman teaches to employ the benefit of lower power dissipation in a display panel as suggested above by Murai.

As to claim 10, Murai discloses in FIG. 6 wherein the input to the pixel is provided to the gates of the first and second drive transistors (14 and 13, respectively) through an address transistor (Transistor 11).

As to claim 11, Murai discloses wherein the first supply voltage (FIG. 4e) is fixed and the second supply voltage (FIG. 4c) is variable (The interval of Power Line 3 can be varied, Page 11 and bottom half of [0030]).

As to claim 12, Murai discloses wherein the first and second supply voltages can be equal (Lines 1012 and 3, respectively, are the same electric potential, Page 11 paragraph [0029]).

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Abe et al., US Publication 2003/0016189, is cited having brightness correction of an EL display.
- b. Liaw et al., US Patent 6,593,934, is cited having brightness correction of a display.
- c. Moon, US Publication 2002/0180680, is cited having brightness correction.

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BAO-QUAN T. HO whose telephone number is (571)270-3264. The examiner can normally be reached on M-F, 8:30 am to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chanh D. Nguyen can be reached on (571) 272-7772. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2629

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BTH

/Chanh Nguyen/
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